

III. Remarks

Reconsideration of this application in light of the above amendments and the following remarks is requested.

Claims 1-26 were originally filed in the present application. Of these, claims 1, 18 and 19 are presently amended. New claims 27-32 are also presently added. Consequently, claims 1-32 are currently pending in the present application.

Applicants note with appreciation the Examiner's indication that claims 11-17 are allowed, and that claims 2, 4, 19 and 26 would be allowable if rewritten in independent form.

Drawing Objections

The Examiner has objected to the drawings under 37 C.F.R. §1.83(a) as not showing every feature specified in the claims. However, the Examiner has not indicated what claimed feature is not shown in the drawings. Consequently, additional clarification by the Examiner is needed before the Applicants can respond to the Examiner's objection. In addition, Applicants respectfully note that 37 C.F.R. §1.81(a) only requires drawings to the extent necessary for the understanding of the claims. It is believed that those skilled in the pertinent art, among others, can understand the presently pending claims in view of the drawings of record. Nonetheless, the Examiner is invited to telephone the undersigned should additional clarification of the drawings be deemed necessary in view of the above.

Rejections under 35 U.S.C. §102: Chen

Claims 1, 3 and 5-10 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,469,926 to Chen ("Chen").

Claim 1

Claim 1 recites:

1. (Presently Amended) A magnetic tunnel junction (MTJ) configuration for use in a magnetic memory cell, the configuration comprising:
 - a pinned layer;
 - a first free layer;
 - a first tunneling barrier located between the pinned layer and the first free layer;
 - a second free layer; and

a second tunneling barrier located between the pinned layer and the second free layer.

The PTO provides in MPEP § 2131 that

"[I]f to anticipate a claim, the reference must teach every element of the claim...."

Therefore, to sustain a §102(e) rejection with respect to claim 1, Chen must contain all of the elements of claim 1. Chen discloses a first pinned layer 32, a second pinned layer 40, a first free layer 46 between the pinned layers 32 and 40, a second free layer 48 between the first free layer 46 and the second pinned layer 40, a first tunnel barrier layer 34 between the first free layer 46 and the first pinned layer 32, and a second tunnel barrier layer 38 between the second free layer 48 and the second pinned layer 40. See Fig. 3 and Col. 5 line 49 – col. 6, line 27. However, the second tunnel barrier layer 38 is clearly not located between first pinned layer 32 and the second free layer 48. In contrast, the second free layer 48 is located between the first pinned layer 32 and the second tunnel barrier layer 38. Consequently, a §102(e) rejection of claim 1 cannot be supported by Chen. Therefore, Applicants respectfully request that the Examiner withdraw the rejection.

Claim 27

New claim 27 recites:

27. (New) An apparatus, comprising:
a first magnetic tunnel junction having a first magneto-resistance ratio; and
a second magnetic tunnel junction having a second magneto-resistance ratio, wherein:
the first and second magnetic tunnel junctions are electrically connected; and
the first magneto-resistance ratio and the second magneto-resistance ratio are substantially different.

To sustain a §102(e) rejection with respect to new claim 27, Chen must contain all of the elements of claim 27. However, among other elements of claim 27, Chen fails to disclose an apparatus comprising: (1) a first magnetic tunnel junction having a first magneto-resistance ratio; and (2) a second magnetic tunnel junction having a second magneto-resistance ratio, wherein: (i) the first and second

magnetic tunnel junctions are electrically connected; and (ii) the first magneto-resistance ratio and the second magneto-resistance ratio are substantially different. Consequently, a §102(e) rejection of new claim 27 also cannot be supported by Chen.

Rejections under 35 U.S.C. §102: Tang

Claims 18, 20 and 21 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application No. 2004/0257868 of Tang (“Tang”). However, 35 U.S.C. §102(e) requires the prior art reference to be a patent or patent application filed by another. Here, the Tang application and the present application have the same inventors. Consequently, the Tang application is not “by another” and, thus, does not qualify as prior art under 35 U.S.C. §102(e). Therefore, Applicants respectfully request that the Examiner withdraw the rejection.

Rejections under 35 U.S.C. §103: Tang in view of Parkin

Claims 22 and 23 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Tang in view of U.S. Patent No. 6,166,948 to Parkin (“Parkin”). However, as described above, Tang does not qualify as prior art. Moreover, even if this was not the case, the Tang application and the present application were commonly-assigned at the time of the invention. 35 U.S.C. §103(c) provides that, as here, a reference shall not preclude patentability in an application when the reference and the application were commonly-assigned at the time of the invention. In view of this and the fact that the Examiner relied on Tang as the primary reference in rejecting claims 22 and 23 under 35 U.S.C. §103, Applicants respectfully request that the Examiner withdraw the rejection.

Rejections under 35 U.S.C. §103: Tang in view of Chen

Claims 24 and 25 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Tang in view of Chen. However, as described above, Tang does not qualify as prior art, and Tang also cannot preclude patentability in the present application pursuant to the provisions of 35 U.S.C. §103(c). In view of this and the fact that the Examiner relied on Tang as the primary reference in rejecting claims 24 and 25 under 35 U.S.C. §103, Applicants respectfully request that the Examiner withdraw the rejection.

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IV. Conclusion

It is clear from all of the foregoing that independent claims 1, 18 and 27 are in condition for allowance. Dependent claims 2-10, 19-26 and 28-32 depend from and further limit independent claims 1, 18 and 27 and, therefore, are allowable as well. The Examiner has also indicated that claims 11-17 are allowable. Thus, claims 1-32 are in condition for allowance.

It is believed that all matters set forth in the Office action have been addressed. Favorable consideration and an early indication of the allowability of the claims are respectfully requested. Should the Examiner deem that an interview with Applicant's undersigned attorney would expedite consideration, the Examiner is invited to call the undersigned attorney at the telephone number indicated below.

Respectfully submitted,



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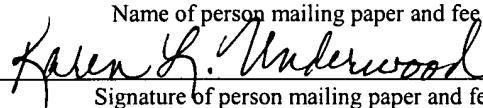
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